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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 09/361,478 Confirmation No.: 5568  
Applicant(s) : Parce, et al.  
Filing Date : 07/26/1999  
TC/A.U. : 2857  
Examiner : Carol S.W. Tsai  
  
Docket No. : 100/02510  
Customer No. : 021569  
Title : Distributed Database for Analytical Instruments

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**RENEWED PETITION UNDER 37 CFR 1.137(b)**

Sir:

A Decision on Petition mailed August 10, 2005 dismissed Applicant's petition under 37 CFR 1.137(b), filed on 18 July 2005, to revive the above-referenced application. This communication is a request for reconsideration of the dismissal of Applicant's petition to revive.

The Decision on Petition indicated that Applicant's petition lacked the required reply because the petition did not include one of the proper replies to a final office action: a Notice of Appeal, a Request for Continuing Examination, or an amendment placing the Application in *prima facie* condition for allowance. To remedy the shortcoming in their petition, Applicants are herewith submitting a Request for Continuing Examination. For the Patent Office's convenience, Applicants are also enclosing copies of the Response to the Final Office Action, and the request for Extension of Time that accompanied the petition filed on 18 July 2005.

09/361,478 filed 07/26/1999  
Parce, et al.  
Renewed Petition Under 37 CFR 1.137(b)

The accompanying Request for Continuing Examination authorizes the Director to charge the total of the RCE fee to Applicant's Deposit Account. The fee for the Extension of Time requested on July 18, 2005 was debited to Applicant's Deposit Account on July 19, 2005. Please charge Deposit Account No. 03-0177 for any additional fees associated with this communication.

Respectfully submitted,



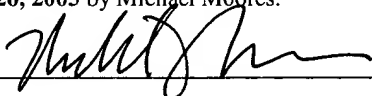
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I hereby certify that this correspondence is being facsimile transmitted to the USPTO *or* deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on **August 26, 2005** by Michael Moores.

Signed: \_\_\_\_\_





IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 09/361,478 Confirmation No.: 5568  
Applicant(s) : J. Wallace Parce and Morten J. Jensen  
Filing Date : 07/26/1999  
TC/A.U. : 2857  
Examiner : Carol S.W. Tsai  
  
Docket No. : 100/02510  
Customer No. : 021569  
Title : Distributed Database for Analytical Instruments

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Alexandria, VA 22313-1450

**AMENDMENT**

Sir:

In response to the Office Action mailed October 1, 2004, please amend the above-identified application as follows:

**Amendments to the Claims** are reflected in the listing of claims that begins on page 2 of this paper.

**Remarks/Arguments** begin on page 5 of this paper.

**Amendment to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (previously presented) A computer implemented method of controlling an analytical instrument that analyzes microfluidic devices, comprising:  
receiving a sequence of steps, each step specifying at least one well of a microfluidic device, a value indicative of a driving force to be applied to fluid in the at least one well and a duration for applying the driving force specified by the value to the fluid in the at least one well;  
for each step, applying the driving force specified by the value to the fluid in the at least one well; and  
scanning fluid as it passes a detection zone in the microfluidic device.
2. (Canceled)
3. (Original) The method of claim 1, wherein the value indicates a current to be applied to the fluid in the at least one well.
4. (Original) The method of claim 1, wherein the value indicates a voltage to be applied to the fluid in the at least one well.
5. (Original) The method of claim 1, wherein the value indicates a vacuum to be applied to the fluid in the at least one well.
6. (Original) The method of claim 1, wherein the value indicates a pressure to be applied to the fluid in the at least one well.
7. (Original) The method of claim 1, wherein the sequence of steps include steps that load a sample to a main channel in the microfluidic device and run the sample through the main channel past the detection zone.

8. (Original) The method of claim 7, wherein at least one step simultaneously runs a first sample through the main channel and loads a second sample to the main channel.

9. (Original) The method of claim 1, wherein the sequence of steps include steps that load a sample to a main channel in the microfluidic device, inject the sample into the main channel, pull back the sample from the main channel, and run the sample through the main channel past the detection zone.

10. (Original) The method of claim 1, wherein the microfluidic device includes at least two intersecting microscale channels.

11. (Original) The method of claim 1, wherein the sequence of steps stored on a computer readable medium and the computer readable medium is selected from the group consisting of a memory, hard disk, floppy, CD-ROM, tape, and data signal embodied on a carrier wave.

12. (previously presented) A computer program product for controlling an analytical instrument that analyzes microfluidic devices, comprising:

code that includes a sequence of steps, each step specifying at least one well of a microfluidic device, a value indicative of a driving force to be applied to fluid in the at least one well and a duration for applying the driving force specified by the value to the fluid in the at least one well; and

a computer readable medium that stores the code.

13. (Original) The computer program product of claim 12, wherein the computer readable medium is selected from the group consisting of a memory, hard disk, floppy, CD-ROM, tape, and data signal embodied on a carrier wave.

14. (previously presented) A system comprising:

an instrument that controls and analyzes a microfluidic device;

a computer including a processor and a computer readable medium, the computer being capable of directing the instrument to apply a driving force to fluid in wells of the microfluidic device; and

code stored on the computer readable medium that includes a sequence of steps, each step specifying at least one well of a microfluidic device, a value indicative of the driving force to be applied to fluid in the at least one well and a duration for applying the driving force specified by the value to the fluid in the at least one well.

15. (Original) The system of claim 14, wherein the computer readable medium is selected from the group consisting of a memory, hard disk, floppy, CD-ROM, tape, and data signal embodied on a carrier wave.

16-29. (Canceled)

### **REMARKS/ARGUMENTS**

Claims 1 and 3-15 are pending in the application. In the Final Office Action mailed October 1, 2004, all of the pending claims were rejected. In this response to the Final Office Action, no claim amendments have been made.

#### **I. Claim Rejections under 35 U.S.C. § 102(e)**

Claims 12 and 13 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Publication 2004/0063162 ("Dunlay"). To anticipate a claim under 35 U.S.C. § 102(e), a reference must teach every element of that claim. MPEP § 2131. Dunlay does not anticipate claims 12 and 13 because Dunlay does not teach the limitation of "a value indicative of a driving force." The term "driving force", within the context of the pending application, refers to a force that initiates fluid movement in channels within the microfluidic device. See e.g. Application pg. 10 lines 9-14; pg. 13 lines 12-15. This meaning of "driving force" is consistent with the term's standard meaning within the field of fluid mechanics. It is important to note that the "microfluidic devices" referred to in claim 1 contain a network of microscale channels within their interior, and that the channels are accessible through reservoirs (or wells, since those terms are used interchangeably in the Application) disposed at the termini of the channels. See Application pg. 8 lines 19-20. Therefore, when the claim 12 prescribes that the claimed "computer program product" specify the value of a driving force to be applied to a well, and the duration for which that driving force will be applied to the well, the claim is essentially stating that the computer program is controlling fluid flow through the channels in the microfluidic device. See Application pg. line 24 – pg. 9 line 4.

Within the context of the intended meaning of claim 12, it becomes clear why Dunlay cannot anticipate that claim. The systems in Dunlay appear to be designed to interface with microplates with non-interconnected wells. See paragraph [0082] and Figure 4 of Dunlay. Since there are no internal channels in a microplate interconnecting the wells, Dunlay could not possibly disclose a "computer program product" that controls fluid flow through such channels. Please note that the portions of Dunlay cited in the Final Office Action appear to discuss the code that controls the movement of the entire microplate so that a camera or fluorescence detector can

monitor a desired portion of the microplate, or so that fluid can be added to particular wells in the microplate from an external source. Those processes bear no relation to flow control within a microfluidic device. Since Dunlay does not anticipate claim 12, and since claim 13 contains all of the limitations of claim 12, neither claim 12 nor claim 13 could be anticipated by Dunlay.

## II. Claim Rejections under 35 U.S.C. § 103(a)

Claims 1, 3-11, 14, and 15 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over the combination of Dunlay and U.S. Patent No. 6,500,323 ("Chow"). These obviousness rejections appear to be based on the following logic: Dunlay discloses the concept of specifying "a value indicative of a driving force", Dunlay does not disclose driving a fluid along a channel in a microfluidic device, Chow teaches driving a fluid along a channel in a microfluidic device, it would be obvious to combine the teachings of Dunlay and Chow. As Applicants pointed in their arguments against the claim rejections under 35 U.S.C. § 102(e), Dunlay does not disclose, or even suggest, the concept of a "driving force" as that term is used in the pending Application. Perhaps the strongest indication that Dunlay does not disclose or suggest a "driving force" that drives flow along a channel is that the microplates disclosed in Dunlay do not have channels. Since nothing in Dunlay suggests the concept of applying a driving force to drive fluid flow along a channel within a microfluidic device, the logic underlying the obviousness rejections of claims 1, 3-11, 14 and 15 breaks down. Therefore Applicants believe that claims 1, 3-11, 14 and 15 are patentable over the combination of Dunlay and Chow.



Conclusion

For the foregoing reasons, Applicant believes all the pending claims are in condition for allowance and should be passed to issue. If the Examiner feels that a telephone conference would in any way expedite the prosecution of the application, please do not hesitate to call the undersigned attorney.

Respectfully submitted,



Donald R. McKenna

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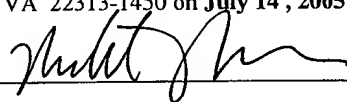
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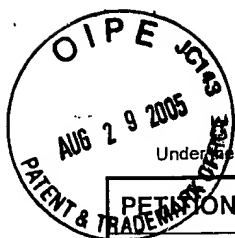
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Signed: \_\_\_\_\_





## PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

Docket Number (Optional) 100/02510

In re Application of J. Wallace Parce, et al.

Application Number 09/361,478

Filed 07/26/1999

For Distributed Database for Analytical Instruments

Art Unit 2857

Examiner Carol S.W. Tsai

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.

The requested extension and appropriate non-small-entity fee are as follows (check time period desired):

- ☐ One month (37 CFR 1.17(a)(1)) \$ \_\_\_\_\_
- ☐ Two months (37 CFR 1.17(a)(2)) \$ \_\_\_\_\_
- ☒ Three months (37 CFR 1.17(a)(3)) \$ 1,020.00
- ☐ Four months (37 CFR 1.17(a)(4)) \$ \_\_\_\_\_
- ☐ Five months (37 CFR 1.17(a)(5)) \$ \_\_\_\_\_

- ☐ Applicant claims small entity status. See 37 CFR 1.27. Therefore, the fee amount shown above is reduced by one-half, and the resulting fee is: \$ \_\_\_\_\_
- ☐ A check in the amount of the fee is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director has already been authorized to charge fees in this application to a Deposit Account.
- ☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 03-0177.

I have enclosed a duplicate copy of this sheet.

I am the ☐ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71.  
Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).

☒ attorney or agent of record. Registration Number 44,922

☐ attorney or agent under 37 CFR 1.34(a).  
Registration number if acting under 37 CFR 1.34(a) \_\_\_\_\_

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

7/15/2005

Date

650-623-0737

Telephone Number

Signature

Donald R. McKenna

Typed or printed name

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☒ Total of 2 forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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